

**IN THE CLAIMS:**

Please cancel claims 6, 9 to 14, 19, 21 and 22 without prejudice or disclaimer of the subject matter contained therein.

Please insert the following claims:

1. (Currently Amended) An isolated nucleic acid sequence comprising [:  
a) the] at least one sequence from the group consisting of SEQ ID NO:1 to SEQ ID NO:5, SEQ ID NO:68 and SEQ ID NO:69 [represented in Figure 8 (SEQ ID NO:1-SEQ ID NO:4); or  
b) the sequence represented in Figure 2 (SEQ ID NO:5, SEQ ID NO:68 and SEQ ID NO:69); or  
c) a sequence obtained from a sequence defined in a) or b) by substitution, deletion or addition of one or more nucleotides with the proviso that said sequence still codes for said protease].
2. (Currently Amended) An isolated nucleic acid sequence that is complementary to a nucleic acid sequence according to [claim] Claim 1.
3. (Currently Amended) A recombinant vector comprising in its structure a nucleotide sequence according to [claim] Claim 1, under the control of regulatory elements, and involved in the expression of calpain activity in a LGMD2 disease.
4. (Currently Amended) An isolated nucleic acid sequence encoding the amino acid sequence of [represented in Figure 2] SEQ ID NO:6.
5. (Currently Amended) An isolated amino acid sequence which is encoded by a nucleic acid sequence according to Claim 1, [characterized in that it is ] wherein said nucleic acid sequence codes for a calcium dependent protease enzyme belonging to the calpain family, involved in the etiology of LGMD2.
6. (Cancelled)

7. (Currently Amended) The [An] isolated amino acid sequence according to Claim 5, [characterized in that] wherein LGMD2 is LGMD2A.

8. (Currently Amended) A host cell [unable to express] which expresses a calpain enzyme activity, [characterized in that it] wherein said host cell is transformed or transfected with a nucleic acid sequence comprising the isolated nucleic acid sequence according to Claim 1.

9-14. (Cancelled)

15. (Currently Amended) A method for detecting an LGMD2 disease, [such] the method comprising the steps of:

- selecting nucleotide sequences from one or more exons [or flanking sequences of said one or more exons] from an nCL1 gene; [[,]]

- selecting primers specific for said one or more exons; [, or said flanking sequences, of said one or more exons,]

- amplifying nucleic acid sequences of said one or more exons [or said flanking sequences of one or more exons] with said selected primers; [, and]

- comparing the amplified sequence to a [the] corresponding sequence selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:5, SEQ ID NO:68 and SEQ ID NO:69; and [obtained from Figure 2 (SEQ ID NO:5, SEQ ID NO:68 and SEQ ID NO:69) or Figure 8 (SEQ ID NO:1-SEQ ID NO:4) wherein a mutation in said amplified sequences is indicative of an LGMD2 disease]

- detecting a mutation in said amplified sequences which is indicative of an LGMD2 disease.

16. (Currently Amended) The method according to Claim 15, [characterized in that] wherein the primers are those selected from the group consisting of:

- a) [those described in Table 1 (SEQ ID NO:10- SEQ ID NO:17);

- b) those described in Table 3 (SEQ ID NO:18- SEQ ID NO:67);] SEQ ID NO:62 and SEQ ID NO:63, and

- [c) those including the introns-exons junctions of Table 2 (SEQ ID NO:71- SEQ ID NO:116); and

- d)] b) those [derived] obtained from the primers defined in a)[, b) or c)].

17. (Currently Amended) The method according to Claim 15, [characterized in that] wherein LGMD2 is LGMD2A.

18. (Currently Amended) A kit for the detection of a predisposition to LGMD2 by nucleic acid amplification [characterized in that it] wherein said kit comprises primers selected from the group consisting of:

- a) [those described in Table 1 (SEQ ID NO:10- SEQ ID NO:17);
- b) those described in Table 3 (SEQ ID NO:18- SEQ ID NO:67);] SEQ ID NO:62 and SEQ ID NO:63, and
- [c) those including the introns-exons junctions of Table 2 (SEQ ID NO:71- SEQ ID NO:116); and
- d)] b) those [derived] obtained from the primers defined in a)[, b) or c)].

19. (Cancelled)

20. (Currently Amended) A pharmaceutical composition for the treatment of an LGMD2 disease which contains a component selected from the group consisting of:

- a) an isolated nucleic acid sequence [according to claim 1;] comprising at least one sequence selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:5, SEQ ID NO:68 and SEQ ID NO:69;
- b) a host cell [according to claim 8,] which expresses a calpain enzyme activity, wherein said host cell is transformed or transfected with a nucleic acid sequence comprising a nucleic acid sequence comprising at least one sequence selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:5, SEQ ID NO:68 and SEQ ID NO:69; and
- c) an isolated amino acid sequence [according to claim 5] which is encoded by a nucleic acid comprising at least one sequence selected from the group consisting of SEQ ID NO:1 to SEQ ID NO:5.

21-22. (Cancelled)